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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,066	09/05/2003	Alexander T. Zaremba	81044293/201-1338	2065
28395	7590	09/21/2004	EXAMINER	
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			MARTIR, LILYBETT	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/605,066

Applicant(s)

ZAREMBA ET AL.

Examiner

Lilybett Martir

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-12, 15-18 and 20-23 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 13, 14 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/5/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the motor and the second controller must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3,6,8-9,10-11,15-18 and 22-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Nada et al. (Pat. 6,784,536).

- With respect to claims 1 and 10, Nada et al. teaches measuring current of the motor by means of elements 181,182,185 or 186; determining speed of the motor by means of element 144; determining a first torque, the first torque being a function of at least the measured current', determining power output from the power source (Col. 22-23, lines 64-7); a power loss for the motor; a second torque, the second torque being a determining function of at least the power output from the power source, the determined power loss, and the motor speed; and comparing the first torque to the second torque when the motor speed is above a predetermined speed (Col. 27-28, lines 64-31).
- With respect to claims 2 and 11, Nada et al. teaches comparing the first torque to the second torque includes calculating a difference between

the first and second torques, and comparing the difference to a first predetermined torque (Col. 27-28, lines 64-31).

- With respect to claim 3, Nada et al. teaches the power source having at least one additional electrical load other than the motor (Col. 17, lines 44-48), wherein the power loss is determined from at least one of the following, power consumed by the at least one additional electrical load, an electrical power loss of the motor, and a mechanical power loss of the motor (Col. 17, lines 49-67, Col. 24, lines 51-57).
- With respect to claims 6, 15 and 20, Nada et al. teaches the motor being a three phase motor having three motor currents, the method further comprising verifying the motor current measurement, the verification including summing the three motor currents and comparing the current sum to a predetermined current value (Col. 13, lines 25-45).
- With respect to claims 8 and 22, Nada et al. teaches the motor receiving a torque command, the method further comprising calculating a difference between the first torque and the torque command, and comparing the difference to a second predetermined torque value (Col. 27-28, lines 64-31).
- With respect to claims 9 and 23, Nada et al. teaches comparing at least one motor parameter value to a corresponding expected parameter value when the torque command is zero, the at least one motor parameter value including the motor current (Col. 31, lines 38-45).

- With respect to claims 11 and 17, Nada et al. teaches comparing the first torque to the second torque includes calculating a difference between the first and second torques, and comparing the difference to a first predetermined torque (Col. 28, lines 23-55).
- With respect to claim 16, Nada et al. teaches determining speed of the engine', and comparing the measured motor speed to the determined engine speed (Col. 22-23, lines 64-8).
- With respect to claim 18, Nada et al. teaches an electric motor MG1 or MG2 having a power source 194 connected thereto, the motor being in communication with a motor controller 260, a first sensor 144 configured to facilitate determination of motor speed, and at least one current sensor 181, 182, 185 and 186 for measuring motor current, the system comprising: a first controller 270 in communication with the motor controller 260 and the capable of receiving an input related to the motor speed from the first sensor and receive an input related to the motor current from the at least one current sensor, the first controller being further capable of determining a first motor power, first and second torques, and to compare the first torque to the second torque when the motor speed is above a predetermined speed (processors/controllers are capable of performing the calculations which they are programmed to, without departing from being processors/controllers).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nada et al. in view of Minagawa et al. (Pat. 6,646,394).

- With respect to claims 7 and 21, Nada et al. teaches the motor speed is measured (Col. 15, lines 37-38). Nada et al. fails to specifically teach at least one sensor configured to measure an angular position of the motor, and the motor speed is determined by measuring change in the angular position of the motor over a known period of time. Minagawa et al. teaches at least one sensor configured to measure an angular position of the motor, and the motor speed is determined by measuring change in the angular position of the motor over a known period of time (Col. 5, lines 64-67). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the vehicle controlling method of Nada et al. utilizing the teachings of the electrical machine control device of Minagawa et al. by measuring an angular position of the motor, and determining the motor speed by measuring change in the angular position of the motor over a known

period of time to make said motor speed determination simple and accurate.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nada et al. in view of Tokumoto (US Appl. US2003/0102181A1).

- With respect to claim 12 Nada et al. fails to specifically teach determining the first torque includes comparing the measured current to current values in a table, and determining the torque corresponding to the measured current. Tokumoto teaches determining torque by comparing the measured current, to current values in a table (Paragraph 41, lines 1-10). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the vehicle controlling method of Nada et al. utilizing the teachings of the electric power steering of Tokumoto by determining torque by comparing the measured current, to current values in a table to further have a standard value to compare to instead of making repetitive calculations, therefore simplifying the process of making the measurements.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilybett Martir whose telephone number is (571)272-2182. The examiner can normally be reached on 9:00 AM to 5:30 PM.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571)272-2180. The fax phone



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number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*CM*  
Lilybett Martir  
Examiner  
Art Unit 2855

*LCM*

*[Signature]*  
EDWARD LEFKOWITZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800